Operating Instructions

Biaxial mixer
TORO 30

Englisch - en

Keep this manual within immediate reach of the machine

Collomix®

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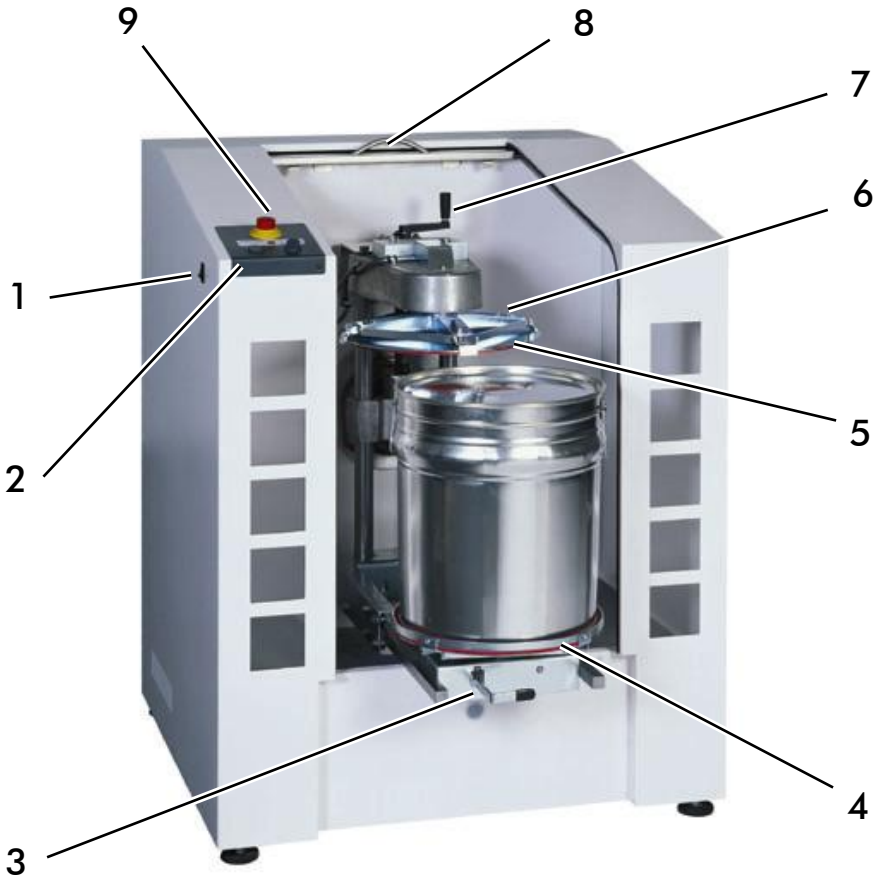
1. Layout drawings

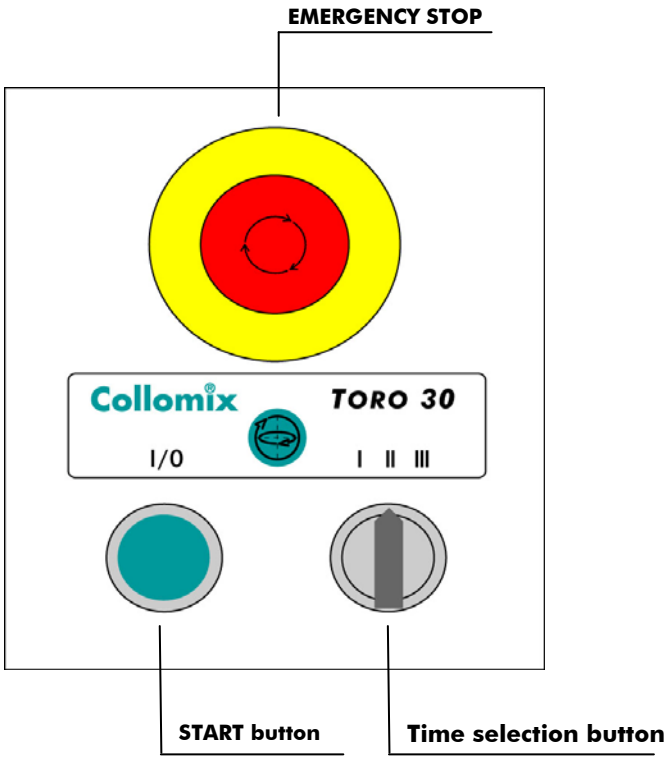
1.1 Machine components Toro 30



Machine components

1. Main switch	6. clamping table support
2. Control panel	7. crank handle
3. Locking lever	8. Shutter
4. Slide with bottom clamping table	9. Emergency Stop
5. Top clamping table	

1.2 Operator's controls



Control buttons

START button	• **START the mixing cycle** • **STOP mixing cycle prematurely** • **Lighting continusly when ready** • **Flashing slow - waiting status** • **Flashing fast - error**
Time selection button	• **I = 1:00 minutes** • **II = 2:00 minutes** • **III = 3:00 minutes**
EMERGENCY STOP	• **Stops the mixing cycle in case of emergency** • **Not interrupting the mains supply!**

2. General information

The TORO is a stationary mixing unit for closed, tightly closing, round, rectangular and oval containers made of metal or plastic. It can be used to mix all types of paints, master batches, house paints, industrial paints, plastic and mineral plasters and other high-viscosity materials, whether consisting of 1, 2 or more components.

Practical applications are to be found in the wholesale and retail paint trade, in the paint, lacquer and chemical industries, and many other related sectors. This mixer is particularly ideal as a component in paint dosing systems.

The clamped container rotates simultaneously about its longitudinal and transverse axis at 2 different speeds, which are adapted to weight of the mixing goods.

The required mixing time and the suitability of the container are to be determined before attempting to use the shaker.

This manual is intended for persons who operate the machine.

3. For your safety

Although the TORO has been developed, manufactured and tested in accordance with fundamental safety requirements, an element of risk is still present!

- Therefore, read this manual before you work with the machine
- Keep this manual within immediate reach of the machine

3.1 Pictograms and symbols used in this manual

The "caution" symbol is used to indicate a situation in which persons are at risk of suffering physical injury. The warning must be heeded at all costs.

The "stop" symbol is used to indicate a situation in which the machine is at risk of being damaged.

The "hazardous electric voltage" symbol is used to indicate live components that may pose a risk to life and limb.

Those parts of the manual that are important for the correct and safe operation of the machine are printed in bold type.

3.2 Proper use

The machine must not be operated in any way other than described in this manual. The term 'improper use' applies in particular to the following:

- Operation with defective or missing parts.
- The bridging or deactivation of any safety devices.
- Operation of the machine in areas with a potentially explosive atmosphere.
- The use and installation of non-original replacement parts.
- Running the machine for too long, which can potentially lead to the mixing container bursting.

The consequences of improper use can be personal injury to the user or third party, as well as material damages to the appliance or mixing material.

3.3 General safety instructions

Observe the electrical regulations in force as well as the additional instructions listed in this manual when you install the machine. Installation and use of the machine for the first time must be carried out by a trained specialist.

The machine is to be used only by persons who are acquainted with the working principles of the machine and also with the safety and accident prevention regulations in force in your country.

Check that the machine is in the proper condition and that all parts are in good working order before beginning with your work. Do not operate the machine with any defective or missing parts.

Any maintenance work or repairs must only be carried out by qualified personnel. Before performing any maintenance work or repairs be sure to disconnect the machine from the power supply by pulling out the power plug. Use only original replacement parts.

Close the machine when not in use and turn off at the main switch. Projecting parts may injure you and others.

3.4 Safety-relevant components

Closed housing

The housing is a stationary safeguard and partition that can only be opened with the use of tools.

Machine door with bolt

The door is an interlocking safeguard and partition with bolt. It is impossible to start the machine when the door is open. The door is not released until after the mixing cycle is ended and the mixing container unclamped.

EMERGENCY STOP function:

With the Emergency Stop function you can

- Reliably interrupt the control voltage supply so that the machine is unable to move.
- Bring the machine to a halt when it is running.

4. Using the machine for the first time

4.1 Installing the machine – Transport notes

Your biaxial mixer is delivered in reusable cardboard packaging on a wooden pallet.

Use a suitable hoist to lift the machine off the pallet. Be particularly careful with the bottom of the machine so that no parts are damaged or bent.

Place the machine on firm, level ground. Slight unevenness can be compensated with the height-adjustable machine feet.

4.2 Activating the PERMA lubrication system

The machine comes with a PERMA© long-time lubricator which is to be installed before you use the machine for the first time. Proceed as follows:

For an easier installation, first open the mixing unit completely.. The lubrication nipple on the hub is on the left side.

Activate the PERMA cartridge by turning the grey activation screw into the cartridge until the holding clip is torn off completely. Remove also the black cap at the top of the cartridge.

Screw the cartridge into the adapter which was fitted to the hub at the factory..

Write the date of installation on the cartridge. The lubrication is guaranteed for approx. 1 year.

PERMA© lubrication

4.3 Trial run

It is best to carry out a trial run **with an empty mixing container** when you are starting up the machine for the first time or after carrying out maintenance work or repairs.

It is prohibited to operate the machine on its shipment pallet.

5. Operation

1. The machine is switched on with the main switch (1).

The green button is flashing slow for 10 sec.

After that, the button is lighting permanently and the machine is ready to work.

2. Open the machine by pulling the shutter upwards

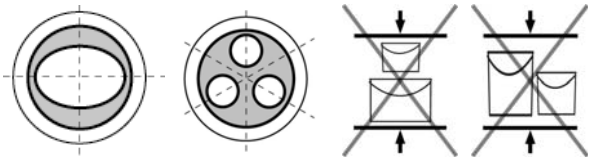
3. Unlock the lower clamping table (4) by pressing the locking lever (3) upwards and pulling it forward.

If the mixing container is higher than the current position of the clamping tables, open the tables further apart. This is done by turning the crank handle (7) anticlockwise.

4.

Place the mixing container on the mixing table in central position and secure the container handle with a rubber band or adhesive tape and.

It is also possible to mix several identical containers simultaneously. In this case, make sure the containers are placed on the clamping table in a symmetrical arrangement:



5.

Push the slide back into the machine until it latches in place.

Clamp the mixing container by turning the crank handle (7) clockwise until the clamping table support is in full contact to the upper clamping plate.

Turn the crank handle another quarter round- the mixing container is now proper clamped.

Attention! Risk of Squeezing between crank handle and housing if mixing unit is completely opened

6.

Close the shutter (8)

7. **Select the mixing time** you want with the Time selection button:

I = 1 minute, 2 minute, III = 3 minute

To start press the start push-button.

The start push button goes out and the machine will start the mixing cycle.

The machine is locking the shutter and beginning to mix the container for the selected time. The door is locked during the operation of the machine.

If the START push button is flashing fast after pressing:
Check whether the shutter is closed completely or the container is well clamped (only with optional clamp monitoring).

8. After finishing the mixing cycle the START push button is blinking slowly during the run out of the mixing unit.

The shutter interlock is released when the START push button is lighting continuously.

Open the shutter completely and turn the mixing unit by hand to 12 'clock position until the latching pin is snapped in.

9. Disclamp the container by turning the crank handle (7) anticlockwise.

Unlock the lower clamping table (4) by pressing the locking lever (3) upwards and pulling it forward.

5.1 Triggering the EMEGENCY STOP function

You can press the **Emergency Stop button** to switch off the machine if ever the container develops a leak or its handle becomes loose or some other potentially dangerous situation for man or machine arises while the mixing cycle is in progress.

After the **EMERGENCY STOP button** is pressed, the mixing unit will coast to a standstill and remain in this position.

Unlock the EMERGENCY STOP button by hand and **wait 10 sec.** until the green START button is continuously lighting up and the shutter is released.

Open the shutter and **turn the mixing unit by hand** until it latches in the 12 o'clock position.

Release the clamping pressure from the mixing unit by turning the crank handle (7) anticlockwise.

The machine is in base position; mixing can be continued.

The Emergency Stop button only interrupts the program flow. The machine is not disconnected from the mains supply! Therefore, before performing any maintenance work or repairs be sure to always disconnect the machine from the mains by pulling out the power plug!

6. Trouble-shooting

Using the trouble-shooting tables listed in this chapter, you can check whether you are able to correct the errors yourself or whether you need to call the customer service department.

Before calling the customer service department, please make a note of the machine's serial number. The machine's serial number can be found on the machine's rating plate.

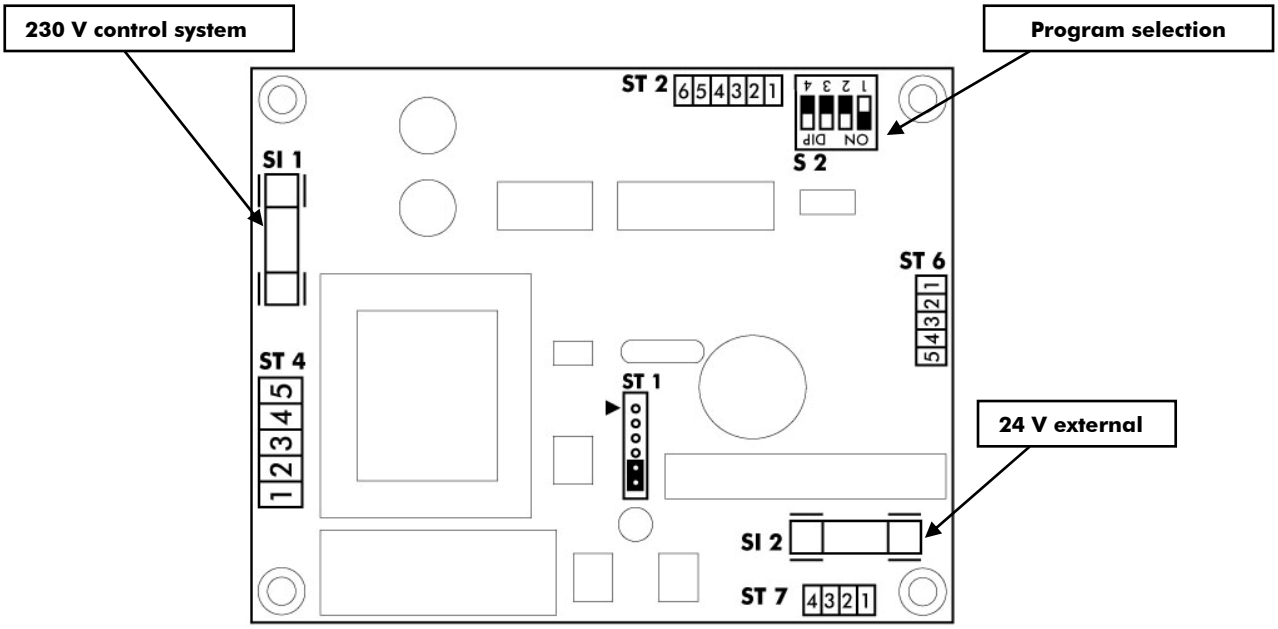
6.1 Error messages

The following table provides an overview of possible errors and their remedies.

Fault	Items to remedy / actions to take
Shutter is locked in closed position	• Check mains and position of the main switch • Release the EMERGENCY STOP
Machine does not start	• Container is not proper clamped (option clamping monitoring) • Close the shutter completely • Check mains and position of the main switch • Release the EMERGENCY STOP
Shutter can't be opened after the mixing cycle	• The START key is flashing slowly for app. 10 seconds during the run out of the mixing unit. Afterwards the door can be opened.

Please note that all maintenance and servicing work must be left strictly to authorized and suitably trained personnel. This applies in particular to work performed with the housing open.

6.2 Layout of the control system



Fuses:

No.	Value	Function
SI1	0,1 A T	230 V control system
SI2	4,0 A T	24 V external

Connector assignment:

ST 1	Lead	Function
1	--	programming interface
2	--	
3	--	
4	--	
5	Jumper	
6		

ST 2	Lead	Function
1	white	GND
2	white	time 1
3	white	time 2
4	white	start pushbutton
5	white	lamp ready
6	white	+ 24 V

ST 4	Lead	Function
1	black	L1
2	blue	N mains
3	green/	PE
4	black	motor relays
5	blue	

ST 6	Lead	Function
1	grey	switch door magnet
2	grey	
3	brown	"Clamp" proximity switch
4	black	
5	blue	

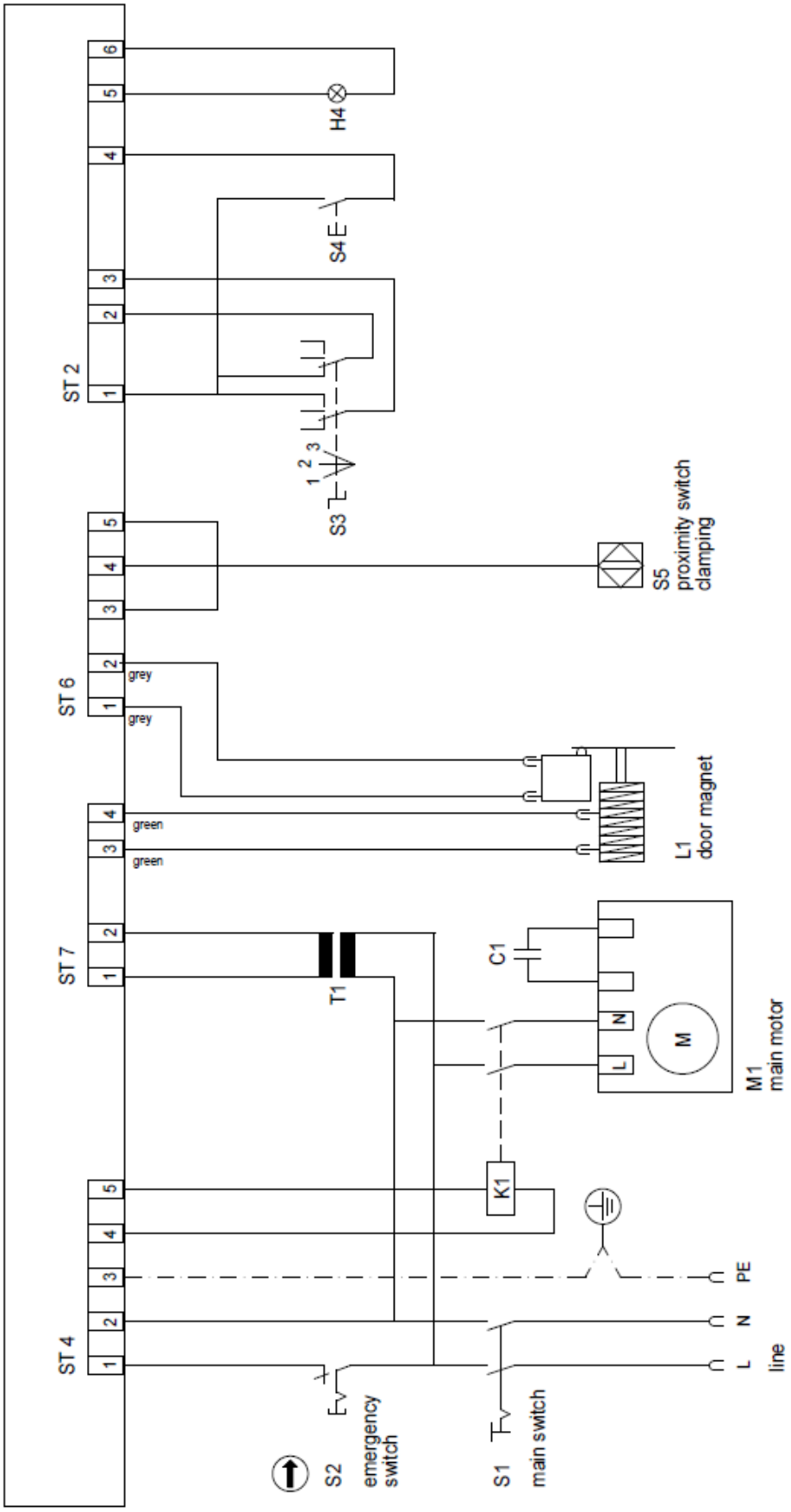
ST 7	Lead	Function
1	violet	24V AC from transformer
2	violet	
3	green	Door magnet
4	green	

DIP Switch

S2	Lead	Function
1	ON	Program selection TORO 30
2	OFF	
3	OFF	
4	OFF	

Live parts of the PCB may be touched when the control panel cover is open. Before you leave the machine in this condition make sure that the machine is disconnected from the power supply and secured against unauthorized use!!

6.3 Wiring diagram



7. Maintenance and cleaning

Regular maintenance is necessary to ensure that the machine remains in good working condition at all times.

7.1 Inspections

Check all safety-relevant parts of the machine before beginning with your work. Arrange for authorized personnel to replace defective or damaged parts before you work again with the machine.

7.2 Cleaning

If any material escapes from the mixing container when it is inside the machine, remove it immediately. Use a rag or a spatula. Take care not to damage any connecting leads or sensors.

Dirty threaded spindles can be cleaned with a rag or a wire brush. When you have finished cleaning the threaded spindles, lubricate them again with **Molycote BR 2 Plus**.

Never clean the machine with a high-pressure cleaner or the like. This could wash the lubricating grease out of the ball bearings, leaving them to run dry. This will result in serious damage. Ball bearings which have run dry must be replaced immediately!

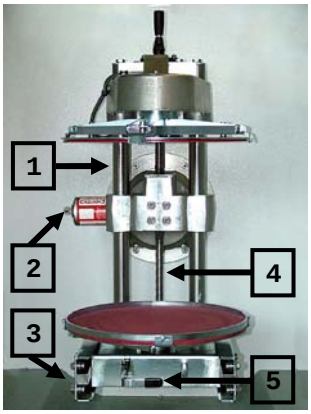
7.3 Maintenance intervals

Every week:

- Remove any dirt from the machine.
- Apply a thin coat of lubricating oil at the two guide columns of the mixing unit.

Every 6 months:

- Check the PERMA lubricating cartridge and replace it when necessary
- Lubricate the threaded spindle and the spindle shaft with Molykote BR 2 plus.
- Check that the lock pin at the mixing unit moves smoothly.
- Check the tension of the V-belt. Replace the V-belt if it is worn or damaged.
- Check that the locking lever moves smoothly and lubricate lightly with grease.
- Check that the bottom clamping table and the slide move smoothly. Remove any dirt.
- Check that all ball bearings move smoothly. Ball bearings are to be found on the two clamping jaws, on the drive shaft at the transmission gear and on the clamping tables.
- Check that the door pull is in good working condition.



1 Guide columns
2 PERMA cartridge
3 Slide pull out mechanism
4 threaded spindle
5 Locking lever

All maintenance and servicing jobs must be left strictly to authorized and suitably trained personnel. This applies in particular to work performed with the housing open.

8. Technical data

Type of machine:	***TORO 30***
Supply voltage:	L1, N, PE; 230 Volt / 50 Hz
Rated power:	0,9 kW
Fuse:	16 A
Speed/mixing unit:	approx. 170 UpM
Max. container weight:	30 kg
container height:	95 - 390 mm
Max. container base area:	- 340 mm
Machine weight:	208 kg
Dimensions (w x d x h):	880 x 790 x 1135 mm

8.1 Warranty

The manufacturer undertakes to provide, as part of the general terms of supply and delivery, a twelve-month warranty. This warranty applies to single-shift operation and is counted from the date of initial start-up. It covers all defects arising from faulty material or workmanship. Please note that all warranty claims must be accompanied by the original delivery note or initial start-up report.

All essential warranty repair work must only be carried out by adequately trained service engineers or by third parties with express prior authorization from Collomix. The carrying out of unauthorized repairs may render the warranty null and void.

Please return any defective parts or machines carriage-paid to our factory. Collomix reserves the right to decide on whether cost-free parts replacement is applicable. Parts and labor covered by the warranty will be supplied free of charge. The warranty does not cover travel costs, expenses or possible overnight accommodation resulting from warranty repairs carried out off our premises.

Any further responsibility, with particular reference to damage claims, including foregone profit or other material losses on the part of the customer, is expressly excluded.

Warranty and liability claims for personal or material damages are excluded if attributable to one or more of the following causes:

- Incorrect operation of the machine, as defined in the operating instructions
- Failure to observe the instructions in the operating manual with respect to set-up, initial start-up, operation and maintenance of the machine
- Faults or damage caused by excessive accumulations of dirt and/or incorrect cleaning schedules, with particular reference to leaks and damaged containers
- Operation of the machine with defective safety and/or protection devices
- Unauthorized structural modifications to the machine
- Incorrect monitoring of parts subject to wear and consumables
- Unauthorized repairs and/or the fitting of non-original spare parts
- Damage caused by the impact of foreign bodies or force majeure
- We reserve the right to make amendments as a result of ongoing advances in the technical field.

8.2 Recycling and disposal

The transport packaging consists of recyclable material. Please dispose of it accordingly.

At the end of the machine's working life, the materials used in its construction must be properly recycled. If you have any questions concerning the disposal of any materials, please contact the manufacturer.

8.3 Declaration of CE conformity

We declare herewith that this product conforms with the following standards and standard-setting documents:

DIN EN ISO 12100-1, DIN EN ISO EN 12100-2, DIN EN ISO 13849, DIN EN ISO 14121-1, DIN EN 55011, DIN EN 61000-6-2, DIN EN 61000-4-2, DIN EN 61000-4-3, DIN EN 61000-4-4, DIN EN 61000-4-5

in accordance with the provisions of directives 2006/95/EEC, 2004/108/EC, 2006/42/EC.

Technical file at: Collomix Rühr- und Mischgeräte GmbH, Abt. Technische Entwicklung, Daimlerstr. 9, 85080 Gaimersheim, Germany

Gaimersheim, 29.12.2009

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This declaration of conformity will lose its validity if any changes or modifications are made to the machine without the manufacturer's approval.

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